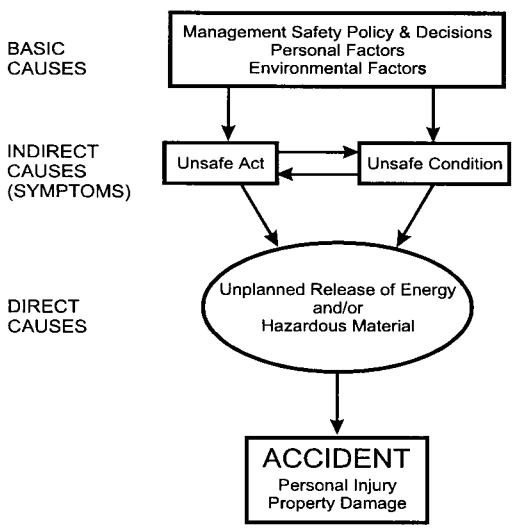
Accident Investigation

- An accident is any unplanned event that results in personal injury or in property damage.
- The failure of people, equipment, supplies, or surroundings to behave or react as expected causes most accidents.
- Accident investigations determine how and why these failures occur.
- Conduct accident investigations with accident prevention in mind - investigations are NOT to place blame.



A detailed analysis of an accident will normally reveal three cause levels: basic, indirect, and direct.

Fact-Finding

- Interview witnesses as soon as possible after an accident.
- Inspect the accident site before any changes occur.
- Take photographs and make sketches of the accident scene.
- Record all pertinent data on maps.
- Get copies of all reports.
- Documents containing normal operating procedures, flow diagrams, maintenance charts, or reports of difficulties or abnormalities are particularly useful.
- Keep complete and accurate notes in a bound notebook.
- Record pre-accident conditions, the accident sequence, and post-accident conditions.
- Document the location of victims, witnesses, machinery, energy sources, and hazardous materials.

Interviews

- Get preliminary statements as soon as possible from all witnesses
- Locate the position of each witness on a master chart (including the direction of view)
- Explain the purpose of the investigation (accident prevention) and put each witness at ease
- Let each witness speak freely and take notes without distracting the witness (use a tape recorder only with consent of the witness)
- Use sketches and diagrams to help the witness
- Emphasize areas of direct observation and label hearsay accordingly
- Record the exact words used by the witness to describe each observation
- Word each question carefully and be sure the witness understands
- Identify the qualifications of each witness (name, address, occupation, years of experience, etc.)
- Supply each witness with a copy of their statements (signed statements are desirable)

Problem Solving Techniques
Change Analysis

As its name implies, this technique emphasizes change. To solve a problem, an investigator must look for deviations from the norm. Consider all problems to result from some unanticipated change. Make an analysis of the change to determine its causes. Use the following steps in this method:

1. Define the problem (What happened?).
2. Establish the norm (What should have happened?).
3. Identify, locate, and describe the change (What, where, when, to what extent).
4. Specify what was and what was not affected.
5. Identify the distinctive features of the change.
6. List the possible causes.
7. Select the most likely causes.

Problem Solving Techniques
Job Safety Analysis

- Job safety analysis (JSA) is part of many existing accident prevention programs.
- In general, JSA breaks a job into basic steps, and identifies the hazards associated with each step as well as prescribing controls for each hazard.
- A JSA is a chart listing these steps, hazards, and controls.
- Review the JSA during the investigation if a JSA has been conducted for the job involved in an accident.
- Perform a JSA if one is not available to determine the events and conditions that led to the accident.

Report of Investigation

An accident investigation is not complete until a report is prepared and submitted to proper authorities. The following outline has been found especially useful in developing the information to be included in the formal report:

1. Background Information
   a. Where and when the accident occurred
   b. Who and what were involved
   c. Operating personnel and other witnesses
2. Account of the Accident (What happened?)
   a. Sequence of events
   b. Extent of damage
   c. Accident type
   d. Agency or source (of energy or hazardous material)

Report of Investigation (cont'd)

3. Discussion (Analysis of the Accident - **HOW; WHY**)
   a. Direct causes (energy sources; hazardous materials)
   b. Indirect causes (unsafe acts and conditions)
   c. Basic causes (management policies; personal or environmental factors)
4. Recommendations (to prevent a recurrence) for immediate and long-range action to remedy:
   a. Basic causes
   b. Indirect causes
   c. Direct causes (such as reduced quantities or protective equipment or structures)